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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/807,643 | 07/16/2001 | Bruce W. Ramme | 960049.90251 | 2367 |
| 26710 | 7590 | 10/07/2003 | EXAMINER | |
| QUARLES & BRADY LLP 411 E. WISCONSIN AVENUE SUITE 2040 MILWAUKEE, WI 53202-4497 | | | MARCANTONI, PAUL D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1755 | |

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/807,643

Applicant(s)

RAMME

Examiner

Paul Marcantoni

Group Art Unit

1755

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 7/14/03 (filing of RCE)
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-4 & 7-19 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-4 & 7-19 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Applicant's arguments filed 7/14/03 along with their RCE have been fully considered but they are not persuasive.

Rejection:

Claims 1-4 and 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oates et al. (US Patent No. 5,837,052)

Oates teaches that fly ash is treated in the cooler stage of the rotary kiln such that the fly ash has adequate residence time and at a temperature effective to remove ammonia or decompose the ammonium compound with the liberation of ammonia gas. Although Oates et al. do not teach the range of temperature of at least 1500 F, they make it clear that a temperature effective to remove ammonia or decompose the ammonium compound is necessary and this would read upon the applicants' claimed temperature range because control of temperature to remove ammonia would have been a parameter that is within the control of one of ordinary skill in the art.

Oates also teaches returning the "hot air" (or hot gases or heat if you like to call it that) from discharge point 48 to port 50) so not only are the fly ash particles in the air reheated and returned to the heating zone exceeding 1500F but also the heat recovered is utilized to preheat the new fly ash entering continuously from the rotary kiln into the heating chamber.

Response:

Oates et al. clearly teach the major concept of applicants' claimed process which is combustion of the fly ash to remove ammonia which would appear to be the focus of applicants' invention.

The applicants argue that their process is different from Oates in that heated gases are recovered to preheat a second amount of fly ash. The applicants argue that Oates only teaches the recovery of *fine particles* from the air exiting the Oates apparatus. The applicants would appear to have reinforced the examiner's own position since they admit that the "air" is returned to the cooler through port 50. In other words air and fine particles of fly ash as well as cement clinker may be returned through port 50. Since the air is most certainly hot at this stage, it would meet the limitations of claim 1 since heated or hot air contains hot gases (ie oxygen, carbon dioxide, carbon monoxide from combustion) that are recovered is recovered heat which is recycled back into the process. This is not a new concept in rotary kiln and is notoriously known in the art for energy and economic considerations when it comes to heat recovery and recycling as well as materials recovery and recycling.

Also, applicants already admit and acknowledge that fine particles of fly ash are recovered that are exiting the Oates apparatus. Again, if the fly ash particles are recycled (or recovered) and reintroduced through port 50 where unheated or un-preheated fly ash is already introduced, they would already also be "preheated" because they've already been exposed to the heat prior to reintroduction into the cooler. So, this meets applicants' claim limitation for preheating. These recovered fly ash particles can represent the so called "second amount" of fly ash as claimed by applicants which still contains ammonia compounds affixed to the particulates. Further, this second amount of fly ash is in

fact re-introduced into the heating chamber at temperatures of at least 1500 F. The applicants' claim limitations for their process are thus met.

In addition, while the recovered fly ash particles may represent the so called second amount of fly ash, it is noted that the fly ash continuously being moved through this rotary kiln is also treated to the returning hot air gases through port 50 so this can also be considered to be the second amount of fly ash to be preheated.

Recovery and recycling or conservation of heat is notoriously known in the art of cement kilns (not to mention any other field impacted by thermodynamics such as automobiles, aircraft, or any other machine that has a combustion engine and heat recovery and conservation are critical to efficiency) and to not recover this available source of heat back into the process considering the high operating temperatures required and energy costs of operating a rotary kiln would defy the boundaries of common sense. Recovery or recycling of heat back into the kiln would have been obvious to one of ordinary skill in the art and should not be held to be a reason for patentability of applicants' instant invention. Combustion of fly ash to remove ammonia from fly ash has shown by the teachings of Oates et al. to be an old process and to conserve the heat in the kiln by recovering hot exhaust gases would also have been obvious to one of ordinary skill in the art.

For the foregoing reasons, applicants arguments are not convincing.

This is a RCE of applicant's earlier Application No. 09/807,643. All claims are drawn to the same invention claimed in the earlier application and could have

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been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Paul Marcantoni
Primary Examiner
Art Unit 1755